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SECTION 1 GENERAL INFORMATION

1.1 AUTHORITY

1.1.1 Title

This document shall be known as "**MANUAL OF STANDARDS FOR THE DESIGN, CONSTRUCTION AND MAINTENANCE OF WATER, WASTEWATER, RECLAIMED WATER, STREETS AND DRAINAGE SYSTEMS,**" and may be referred to as the "Public Works Manual", as is done hereinafter.

1.1.2 Intent

The intent of this Public Works Manual is to provide for the safe and orderly use and development of the public right-of-ways under the City of Groveland jurisdiction, to the end that the needs and interests of the public are served as fully and efficiently as possible. The regulations embodied herein have been made as broad as possible to serve as standards of quality to maintain the necessary uniformity in the utilization of the public utilities and traffic corridors.

1.1.3 Applicability

These standards are applicable to the design and construction of facilities within the City of Groveland. These specifications, standards, drawings and other information included herein are intended as **MINIMUM** requirements acceptable for projects submitted to the City of Groveland. They apply to all development and construction projects, both public and private, that fall within the jurisdiction of the City. Variances from these standards are not permitted without written approval from the Public Works Director. Applicable Federal, State and local environmental laws and regulations should be considered concurrently with this text.

The provisions of this Public Works Manual do not apply to existing facilities in the public rights-of-way, but do apply to any alteration, extension or maintenance performed upon them from the effective date of these regulations, forward.

1.1.4 Interpretation

The Public Works Director shall make interpretation of all questions concerning the intent of these regulations and may revise these standards without prior notice as deemed necessary to improve or maintain the integrity of the City public works and utilities systems.

1.2 GENERAL

1.2.1 Subdivision Planning

1.2.1.1 Objectives

The objectives of the City of Groveland in subdivision planning are to promote health, safety and welfare in enhancing the quality of life for its residents. This

dictates a safe and efficient access and traffic circulation system. The following principles are to be considered in accomplishing these objectives:

1.2.1.1 Adequate Vehicular and Pedestrian Access

Adequate vehicular and pedestrian access shall be provided for all parcels. Street widths, sidewalk placement, patterns of streets and number of intersections shall take into consideration both safety and efficiency of access to abutting parcels. Every parcel shall abut an approved private street, an approved access easement, or a street dedicated to, and accepted by the City for maintenance.

1.2.1.2 Minimization of Traffic Movements Through Local Streets

Through traffic shall be discouraged through the use of discontinuities in local street patterns by offsetting local street intersections and by channeling or controlling street medians along peripheral major or collector streets. This will reduce the amount and speed of traffic, thereby making local streets more safe and amenable to residents.

1.2.1.3 Logic and Consistency in Street Numbering and Naming

A consistent and logical pattern shall be developed to simplify local street naming and numbering, to assist visitors in locating addresses and facilitate access by emergency vehicles, delivery vehicles, etc.

1.2.1.4 Efficient Traffic Circulation and Development Patterns

Driveways, intersection placement and access shall be controlled so that no parcels require direct access to major or collector streets. Provisions shall be provided for continuing existing principal streets from adjoining areas through new subdivisions. Where streets are extended to subdivision boundaries and abut either undeveloped adjoining land, or connect to collector or arterial roads, the location of the subdivision street shall be coordinated with the Public Works Director to facilitate future street development in adjoining areas, for overall efficiency of traffic flow and for safety considerations of future intersections.

1.2.1.5 Design for Purpose Intended

Local streets shall not be oversized or overbuilt (i.e., extra width, higher speed, etc.) to such a degree that will detract from the residential character and which will encourage higher use and higher traffic speed. The use of curvilinear alignment, discontinuities and traffic calming are encouraged to minimize speeds in excess of 30 MPH and discourage through traffic.

1.2.1.6 Minimum of Intersections

Intersections shall be kept to the minimum number practicable, particularly between local streets and collector or arterial roads, to reduce accident potential. Consistent with other requirements, "T" intersections are preferable to four way, or cross type intersections. Streets shall be arranged to intersect

as closely as possible to right angles. In no case shall streets intersect at an angle of less than 75 degrees.

1.2.2 Planning and Design Criteria

1.2.2.1 Local Streets

1.2.2.1.1 Maximum length of a cul-de-sac shall be 1200 feet, unless otherwise approved by the Public Works Director. Minimum paved radius shall be 36-feet.

1.2.2.1.2 Local streets shall intersect with other local streets to the maximum extent practicable, and in no case with more than one collector or arterial road.

1.2.2.1.3 Loop roads, cul-de-sacs and curvilinear streets shall be considered in the planning and design.

1.2.2.2 Collector Streets

1.2.2.2.1 No direct access shall be provided to a collector street from a residential lot.

1.2.2.2.2 Collector/arterial streets shall connect to only one collector or arterial road.

1.2.2.2.3 Residential dwellings shall face away from collector/arterial streets (i.e., collector/arterial street to side or rear lot line).

1.2.2.3 Commercial Sites

Commercial sites shall conform to these standards in regard to roadway improvements, rights of way, sidewalks, driveways and all other requirements outlined for residential subdivisions, as appropriate.

1.2.2.3.1 No direct access shall be provided to a collector street from a residential lot.

1.2.2.3.2 Collector/arterial streets shall connect to only one collector or arterial road.

1.2.2.3.3 Residential dwellings shall face away from collector/arterial streets (i.e., collector/arterial street to side or rear lot line).

1.2.3 Master Plans

This information on master plans is to be considered only as it pertains to and impacts the design, construction and maintenance of the public works facilities within the jurisdiction of the City of Groveland. Considerations, requirements and conditions of

other agencies having jurisdiction and planning responsibilities may not be reflected in this section.

For residential or commercial developments constructed in multiple phases or for single-phase residential projects with more than one pump station, a Master Plan for water, wastewater and/or reclaimed water is required. Other master plans for streets, stormwater facilities, sidewalks, bicycle paths, etc may be required by conditions of PUD/MPUD approvals.

The Master Plan for utilities must be approved prior to the approval of construction plans. For large subdivisions the Master Plan may require approval before the point of connection can be issued during the processing of the utility service application.

The construction plans must be consistent with the approved Master Plan. For any changes to the development, the Developer must submit a revised and updated Master Plan. The requirement for submittal of a revised master plan may be waived, if the City considers the changes to be minor or not significant.

The Master Plan will consist of a layout of the major water, wastewater, and/or reclaimed water lines superimposed on a topographic map. The layout plan sheet(s) shall be at a minimum scale of 1" = 200' and show existing and proposed improvements in sufficient detail to show intent of design. The master plan shall be signed and sealed by a Professional Engineer licensed in the State of Florida. The requirements for each specific utility plan include the following:

- The topographic map having one-foot contours.
- Developments immediately adjacent to undeveloped tracts shall include a conceptual plan for extension of potable water, wastewater, and/or reclaimed water service to said tracts.
- Master Plans shall have a vicinity map showing the location of the project and the scale used.

Wastewater

- Invert and top elevations for manholes.
- Pipe diameters (both force mains and gravity lines).
- Total wastewater flow (both average daily flow and peak) to each pump station. A summary of each unit or tract stating: Type of use (single family residential, master-metered residential, commercial, etc.), Unit Flow Factors, and Peaking Factors.
- Pump Station locations with top, invert, and bottom elevations.

- Clear delineation of existing versus future units or tracts.

Potable Water

- Calculations for maximum potable water demand based on full or projected ultimate development or use gross acreage and land use. Maximum water demand will be calculated as peak hour flow plus fire flow.
- Consult with the City Public Works Department to obtain a “system response curve” (pressure versus flow) representing the City’s water distribution network hydraulic response to the requested water demand.
- Use the network response curve to design the water distribution system. Submit the master plan with a pipe network analysis (e.g., EPANET, KYPIPE, etc.) with flow and pressure distribution for approval. Include connection points and pipe sizes. Available information on hydrant locations and lot platting should be included.

Reclaimed Water

- Calculations for reclaimed water demand shall be developed and submitted only after determination of availability of reclaimed water by the City.
- Consult with the City Public Works department to obtain a “system response curve” representing the City’s distribution network response to the requested water demand.
- Use the network response curve to design a reclaimed water distribution system. Submit the final design with a pipe network hydraulic analysis with flow and pressure distribution for approval. The final design shall include connection points, pipe sizes, meter location(s), and lot platting.

1.2.4 Construction Plans

A) Pre-Submittal Conference

Prior to submittal of Construction Plans, a pre-submittal conference must be held with the City that is attended by the Developer and/or Engineer as applicable.

B) Plans Preparation

The City assumes no responsibility for the design of improvements or for any material specified. Approval of the Plans and Specifications or use of the Minimum Standards does not relieve the Engineer of Record and/or Owner/Developer from his responsibility for providing a complete working system that does not adversely impact the operation of the existing system. While the City will make every effort to ascertain that the plans are in conformance with these standards, the right is reserved to enforce the minimum standards regardless.

It shall be the responsibility of the Engineer of Record to secure proper existing utility information, size facilities and prepare plans all in accordance with these minimum standards. The Public Works Director may, at his option, apply more stringent standards where site specific conditions warrant. Copies of all design criteria and calculations shall be provided to the City.

Referenced standards (AWWA, ANSI, ASTM, NSF, etc.) are the latest revisions thereof. The City assumes no responsibility for standards developed by outside agencies. Note that these standards may not satisfy other agency requirements. Conflicts shall be deferred to the Public Works Director in writing for resolution.

C) Submission

- 1) All construction plans submitted to the City for review and approval shall conform to the requirements of Chapter 471, Florida Statutes and bear the seal and signature of the Florida Registered Professional Engineer responsible for design of the project (Engineer of Record). The address, professional engineer license number and phone number of this individual shall be shown along with the seal and signature.
- 2) Six (6) sets of plans and specifications shall be submitted to the City for approval. Two (2) sets of approved plans will be returned to the Engineer for use in constructing the project. Approval of plans and specifications by the City does not imply approval of any other permits that may be required by other agencies.
- 3) No changes shall be made on approved plans without specific City concurrence. The City will enforce the approved construction plans and specifications to a level equal to that of the minimum standards.
- 4) The City reserves the right to review shop drawings.

B) Format

1) Sheet Size

Construction Drawings submitted to the City for approval shall be in 24" X 36" format. Worksheets and Data shall normally be in 8-1/2" X 11" format (fold-out sheets are permitted).

2) Content

Construction plans shall include appropriate water, sanitary sewers, reclaimed water systems, roadways, stormwater management facilities and all other necessary improvements in accordance with all City specifications, standards and policies. The following list of proposed project information is to be provided as a minimum:

1. Area of Each Phase
2. Total Area of All Phases
3. Area of Wetlands (A)
4. Uplands Area (B)
5. Area of Conservation Easements for Each Phase
6. Total Area of all Conservation Easements
7. Current Zoning
8. Proposed Use:
 - Number of Lots
 - Typical Lot Size
 - Lot Grading Plan Types
 - Gross Density
 - Roadway Dedication
 - Typical Roadway Construction
 - Typical Right-of-Way Width
 - Total Length of Interior Roadways
 - Total Area of Interior Right-of-Ways (C)
 - Area of Passive Parks (D)
 - Total Non-Residential Use (A+C+D)
 - Net Density
 - Additional conditions of the approved PUD, if applicable.
9. Proposed Services:
 - Drinking Water
 - Sewage Disposal
 - Fire and Police Protection
 - Electric
 - Cable
 - Telephone
 - Gas
 - Schools
 - Garbage Disposal
10. Minimum Building Setbacks
 - From Front Property Lines and Right-of-Ways
 - Front Porch Setback
 - From Rear Property Lines
 - From Side Property Lines
 - Street Side Setback
11. Typical Lot Easements
 - Front Yard Public Utility
 - Other
12. Minimum Dimension Requirements
 - Minimum Roadway Frontage
 - Minimum Lot Width at Bldg. Setback Line

14. Sizes and Lengths of Water Lines
15. Number and locations of Hydrants
16. Sizes and Lengths of Sewer Lines
17. Sizes and Lengths of Reclaimed Water Lines
18. All underground utilities in both plan and profile view
19. The Florida One Call number for utilities locates shall be shown on the construction plans

1.2.5 Permits

A permit is required for all construction in public right-of-ways under the City of Groveland jurisdiction. Such permits shall only be issued from the Department of Public Works, by authority of the City Manager and City Council. This is not intended to preclude other permits and approvals that may be required by other agencies for other aspects of the work. Except as provided hereinafter, no construction shall be started until a permit for the proposed installation has been granted by the Department of Public Works.

Minor construction or maintenance work, such as installation of water meters (up to 2"), cable splice pits (not in or within two feet of a roadway) street light or traffic signal maintenance, or similar types of work may be done without permit or prior notice to the Department of Public Works. This is not to be construed as including cable replacement or any other type of facility upgrading or rehabilitation involving excavation, except for splice pits as mentioned above.

For work inside of existing manholes within the right-of-way, permission shall be obtained from the Department of Public Works.

None of the above permit procedures shall apply to emergency repair work in public right-of-ways. Emergency repair work is defined, for the purposes of this document, as that which must be done immediately upon discovery, in order to safeguard the public from immediate danger to life or limb, to safeguard public health or welfare or to restore interrupted utility services. In the event of an emergency as defined above, repair work may be started without a permit upon verbal notification being given to the Department of Public Works. If the Department of Public Works offices are closed, then notification must be given as early as possible on the next regular work day. After the emergency repair is completed and the right-of-way is restored, a record drawing must be submitted to the Department of Public Works, unless otherwise provided hereinafter, within ten working days. Work that can be scheduled ahead of time will not be considered emergency work.

1.2.6 Construction

A) Construction Start

1) Notification

The City shall be notified in writing of the proposed construction start date at least two weeks in advance and again forty-eight hours prior to commencing work on any facilities that are intended to be turned over

for City ownership, maintenance or operation. Any time work is to stop for a period of time in excess of two (2) working days the City shall be notified in writing of such interruption.

2) Pre-Construction Conference

A Pre-construction conference shall be held at least 1 week prior to the start of construction. The Engineer and/or Developer will be responsible for arranging this conference with the City.

(a) Insurance certificates must be provided to the City when work involves City property, Right-of-Way, or easements.

(b) Copies of all required permits must be provided to the City.

3) Approved Plans

A set of plans for the project, bearing the Department of Public Work's approval stamp must be located on the job-site whenever work is in progress. When applicable, a Department of Public Works right of way permit must also be available at the site when work is in progress.

4) Changes to the Plans

All field changes to previously approved construction plans shall be in accordance with these standards and approved by the City prior to implementation. All changes shall be reflected in the record drawings

5) Supervision of Construction

The permittee and/or contractor shall keep sufficient competent supervision on the site while work is in progress to ensure that the work is being performed properly and in a safe and orderly manner.

6) Utility Coordination

The Contractor shall be responsible for contacting the Florida One Call number in timely fashion and for locating and coordinating all utilities located within the project area shown on the Drawings.

5) Connection to Existing Utilities

All taps, tie-ins, etc., to existing facilities shall only be completed within the presence of a City representative. All connections shall be made in accordance with approved plans and specifications as issued by the City.

6) Interruption and Restoration of Services

Adequate provision shall be made for the safe, continuous operation of any utilities, drainage facilities or water courses encountered during construction, unless other approved arrangements have been made.

The operators of all such services and all structures altered or damaged during construction shall be notified immediately, and all such services and structures shall be satisfactorily restored upon completion of work.

7) Job Site Safety

All permitted work in right-of-ways must be done in strict accordance with the provisions of the Occupational Safety and Health Administration (OSHA) regulations, and all other applicable codes.

8) Maintenance of Traffic

When working in public right-of-ways, a maintenance of traffic plan shall be developed in accordance with the following standards:

Florida Department of Transportation Manual of Uniform Minimum Standards for Design, Construction and Maintenance of Streets and Highways. (Green Book).

Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Florida Department of Transportation Roadway and Traffic Design Standards

US Department of Transportation, Federal Highway Administration, Manual on Uniform Traffic Control Devices for Streets and Highways

Strict adherence shall be maintained throughout the construction period. Temporary measures must be taken, where necessary, to provide a minimum of one lane of traffic in each direction on each affected road at all times, unless specific permission is obtained from the Public Works Director to depart from this requirement. Where such departure is approved, the requesting individual or organization shall notify police, fire and emergency vehicles, the school district and U.S. Mail Service of the location and time of all street closures. Otherwise, access to each home and place of business or assembly abutting the affected right-of-way shall be maintained.

The right-of-way must be maintained in a safe condition, suitable for driving until the permitted work is complete and the right-of-way is restored and accepted for maintenance by the Department of Public Works.

These provisions shall be in effect under all weather conditions, twenty four hours per day, every day, from the commencement of work until final acceptance by the Department of Public Works, except in time of emergency.

9) Underground Facilities

Underground facilities in public right-of-ways, to the extent practicable, shall be installed within a designated area for public utilities adjacent to the right-of-way line. An area of 10-feet width, minimum, shall be reserved for the use of public service utilities or franchisees. Where existing right-of-ways or other limitations render this designated area within the right-of-way insufficient to accommodate all required facilities, a 10-foot easement adjacent to and outside the public right-of-way, shall be dedicated for this purpose. All underground and in-ground facilities in public right-of-ways shall be designed and installed so as to safely sustain any vehicular loads that might be placed upon them.

Prior to placing any underground facility in the public right-of-way, unless otherwise approved by the Department of Public Works, the permittee shall remove all muck and other deleterious material to a point not less than four feet below, and not less than four feet on either side of the facility's intended location. If so doing would endanger an existing facility, contractor shall de-muck only that area which can be done without endangerment. These requirements shall not be mandatory for direct burial cables or conduits for cables.

In all areas to be paved, all underground utility lines not yet in service shall be tested by the permittee or contractor and observed by the City or the Engineer of Record, to determine serviceability and acceptance, after the roadway base has been constructed but before the wearing course(s) have been placed. All damaged or defective portions of such facilities shall be replaced or repaired and re-tested, and the roadway base restored by said maintaining entity. At that point, the facility shall again be tested for serviceability and acceptance. This procedure shall be repeated until the facility is determined to be serviceable and is accepted, after which the wearing course(s) may be placed.

10) Above Ground Facilities

Above ground facilities, where acceptable or approved, shall also be installed within a designated area of 10-foot width, minimum adjacent to the right of way line. Where existing right-of-ways or other limitations render this designated area within the right-of-way insufficient to accommodate all required facilities, a 10-foot easement adjacent to and outside the public right-of-way, shall be dedicated for this purpose.

11) Utilities Crossings Under Existing Pavements

All underground utilities crossings of paved roads shall be made by "jack and bore," "flow moling," or directional drilling, unless an alternate method is approved by the Department of Public Works. Proposed open cuts shall be shown on the drawings submitted for approval. When a pipe or conduit is driven through the earth under pavement, driving shall be done in such a manner as will leave no voids in the underlying earth. Extraction of pipe or conduit from beneath any

roadway, generally, is prohibited. In extreme situations, where pipe must be removed, the roadway must be trenched and later restored in accordance with all applicable provisions of this Public Works Manual.

12) Environmental Protection During Construction

Prior to the start of construction, silt barriers shall be installed to protect wetlands and conservation areas. The Contractor shall check the condition of silt barriers periodically and after each rain event to make sure they are functioning as intended. The Contractor shall remove any downstream siltation prior to the final inspection.

The Contractor shall maintain weekly monitoring reports required by the EPA-NPDES General Permit

13) Completion

a. Record (As-Built) Drawings

The Engineer or Developer shall submit Record Drawings within two weeks following the final inspection.

b. Certificates of Compliance with the specifications and warranties furnished by material and equipment suppliers shall be submitted to the City on all materials and equipment used in the completion of the work prior to acceptance.

c. The Engineer of Record shall supply to the City two (2) complete sets of operation and maintenance manuals for all electrical and mechanical components including pumps, motors, control circuits, radios, sensors, meters, wiring diagrams, etc. An O&M manual must be provided for all lift station equipment and installed in the control panel (not part of the 2 sets to be supplied to the City).

1.2.7 Testing

Forty-eight (48) hours minimum notice must be given to the Department of Public Works prior to scheduling any required tests and/or inspections.

The Engineer of Record or his representative shall carefully observe and/or inspect all portions of the permitted installation and conduct the necessary compliance testing to determine that the contractor has substantially complied with all approved plans and specifications related thereto. The Engineer of Record shall so certify to the City of Groveland at the completion of the work.

No labor, material or equipment required for testing of facilities shall be furnished by the Public Works Department, except as noted hereinafter. Tests shall be performed by individuals or organizations qualified and appropriately certified, and shall be performed in the presence of the Engineer of Record, or designated representative, and a Department of Public Works representative. If the Department of Public Works

does not witness a properly scheduled test, after being provided with the required advance notice, the certification of the Engineer of Record will be accepted.

It shall be the Contractor's responsibility to provide the necessary equipment and personnel for all inspections and testing, including televising the sanitary sewer laterals. This shall include all safety equipment necessary to meet OSHA requirements. Inspections shall be scheduled with the City a minimum of 48 hours in advance and will be cancelled if proper testing or safety equipment is not on site and readily available at the time of the inspection.

Access to the work shall be provided by the Contractor for all required tests and inspections. If work is covered up without the City first being provided with the opportunity to inspect or witness such work, the Contractor shall bear all costs associated with uncovering, retesting, additional testing, or any other means necessary to provide physical evidence as to the acceptability of the work performed by the Contractor. Such costs shall be the responsibility of the Contractor regardless of whether or not the work is found to be defective or acceptable to the City.

1.2.8 Inspections

a. Periodic

All projects shall be subject to inspection during and upon completion of construction by an authorized representative of the City. Presence or absence of a City representative during the construction does not relieve the Owner and/or Contractor from adherence to the approved plans and specifications. A representative of the City may periodically visit the project site to make a visual inspection of the progress of the work and methods of construction. Work not in accordance with the plans and specifications will be brought to the attention of the Contractor. The Contractor shall take immediate action to correct the out-of-specification work at his own expense.

Prior to final inspection, the Owner/Contractor shall notify the City in writing that the work has been substantially completed in accordance with approved plans and specifications.

b. Final

Upon receiving a written request for final inspection of the completed work, an authorized representative of the City, together with representatives of other interested agencies, shall perform the final inspection within two weeks of the receipt of the request.

Subsequent to the Engineer of Record certification, signs, pavement markings and signalization will be reviewed and shall be acceptable to the Department of Public Works.

1.2.9 Reports

All reports relating to construction progress, tests or other matters which may be required by the Department of Public Works, other agencies or the Engineer of Record shall be provided to the Department of Public Works without charge.

1.2.10 Final Acceptance

The City will accept ownership of the completed facilities when the work has passed the final inspection and acceptable Record Drawings are submitted to the City. Record Drawings measurements shall be made by a registered land surveyor, licensed by the State of Florida, reviewed by the Contractor and by the Engineer of Record for the project, who shall affix a statement that the information has been reviewed, along with the seal of the Engineer, signature and date on copies of non-reproducible drawings. Record drawings shall show final locations of sewer lines, manholes, valves, fittings, manhole rim and invert elevations, water mains, reclaimed mains, air release valves, bacteriological sampling point locations and all other pertinent information related to the utility system. Service line location and measurement shall be from the next downstream manhole with an indication of the length of service and depth of the end of service. For sewer service lines not located perpendicular to the main, locate the end of the service from two property corners. Record drawings shall also show design and finished grades of site work, and paving, dimensions and elevations of retention/detention areas, weirs and flumes, tops of grates drainage structures, tops and bottoms of skimmers, baffles, etc, inverts and pipe lengths of stormwater pipes and all other information necessary for the Engineer of Record to certify that the project has been constructed in substantial compliance with the design as permitted.

Final acceptance by the City will be made in writing upon satisfactory completion of the project, including final inspection and submittal of the following documents:

1. Two (2) Print sets of Record Drawings, signed and sealed by the Engineer of Record
2. One (1) compact disc containing the conformed Record Drawings, in AUTOCAD 14 or higher format and “.pdf” format.
3. Certifications of Completion from all Regulatory Agencies (i.e. Florida Department of Environmental Protection, St. Johns River Water Management District, Florida Department of Transportation, etc.)
4. Recorded easement documents
5. Maintenance Bond in the amount of 20% or all contributed assets, with a duration of 2 years. Maintenance Bond shall be accompanied by a letter prepared, signed, sealed and dated by the Engineer of Record documenting the Bond amount.
6. Copies of all approved Testing Results (i.e. Pressure Test, Air Test, Lamping, Mandrel, Densities/Compaction, VHS copy of sanitary sewer videotape, etc.)
7. Results of Bacteriological Sampling on water lines

Final acceptance by the City will be made in writing upon satisfactory completion of the project, including all items above. The Owner/Contractor shall warranty the work for a period of one year from

the date of final acceptance and shall immediately correct any deficiencies in the work due to materials and/or workmanship, which occur during the warranty period. The date of final acceptance shall be the date on which the Owner/Contractor has fulfilled all conditions necessary for final acceptance.

1.2.11 Maintenance

All items or systems must be designed in such a manner to minimize future maintenance. A two-year maintenance bond on all work shall be furnished to the City at the time of final acceptance, along with all warranties and manufacturers' manuals for all items to be maintained by the City. In addition, all submersible pumps shall be warranted for a period of five years. Warranties shall be extended by six months from the date of any repair to a warranted item. All disturbed earthen areas shall be seeded and mulched or sodded, watered and maintained through the period of first cutting prior to acceptance. The City shall be provided five-year warranties on all pumps, motors, electrical panels, etc. by the manufacturer prior to final acceptance by the City.

1.2.12 Transfer of Private Ownership

When transfer of private facilities to public ownership takes place, all such private facilities shall be brought up to the current City standards at no cost to the City insofar as construction and maintenance are concerned, before the City will accept such facilities. The City is to be furnished copies of all approvals; permits, certificates of completion, etc., to or from completion, etc., to or from other agencies such as Lake County, Florida Department of Environmental Protection, St. Johns River Management District, Florida Department of Transportation, railroads, etc., before proceeding with construction. Proof of satisfactory completion of water and sewer facilities, positive water bacteriological tests, and submission of quit claim deeds, bills of sale, prior and current permits, warranties, manufacturers manuals, and a two year maintenance bond shall be furnished to the City prior to acceptance.

1.2.13 Property Ownership

All facilities within public right-of-way must be owned and maintained by a public service utility or franchisee or by a political entity competent to function within the State of Florida, and shall remain the liability of the last operating entity until removed.

1.2.14 City Ownership, Operation and Maintenance

All facilities to be owned or maintained by the City shall be located on City property, within City right-of-way or on easements dedicated to the City for the uses intended.

The City's responsibility for ownership, operation and maintenance of water mains or water service lines shall end at the meter or backflow prevention device. Hydrant mains and hydrants shall be owned by the City, unless stated otherwise. Fire sprinkler mains shall be owned by the City to the backflow prevention device. Proper easements and testing are required for all City-owned facilities as described below.

The City will not be responsible for maintaining sewer services within private property. The City will not operate, maintain or acquire ownership of any on-site wastewater facility that is not constructed to the City standards. Responsibility for these mains or lift stations will reside with the owner/developer. Ownership and maintenance of all facilities shall be at the discretion of the City.

1.2.15 Approval Period

Plans shall be valid for commencement of construction for a maximum period of one year from the date of City approval only. All items not under construction within one year of the approval date shall require a new approval prior to the commencement of construction.

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